

HPE OneSphere simplifies Kubernetes management



Managing cloud-native infrastructure

Migrating workloads from one infrastructure environment to another, to leverage lower cost and/or improved performance, is one of the key value propositions of a hybrid cloud architecture. A consistent runtime environment for applications across environments is essential for predictable and automated deployments. Container technology such as Docker addresses this key challenge allowing developers to package applications once and deploy in multiple environments. Docker manages system resources efficiently maximizing utilization while also providing platform portability.

Challenges with containerization

The advent of microservices architectures leveraging Docker ushered in the benefits of flexible, loosely coupled, and highly scalable architectures. But these architectures come with the challenge of integrating and managing them in distributed environments. They require constant monitoring, orchestrating, and scaling. Kubernetes, a leading open source technology, solves these problems by helping automate the deployment, scaling, and management of applications running on containers. It is the fastest growing container orchestration tool and widely accepted by both enterprises, as well as the developer community.

Further, applications on containers are often deployed using Docker images or Kubernetes Helm charts sourced from public repositories. However, these images lack quality checks and introduce security and compliance risks.



Kubernetes management with HPE OneSphere

HPE OneSphere is a software-as-a-service (SaaS)-based multicloud management solution. Through a unified view in HPE OneSphere, internal stakeholders (IT operations, developers, and business executives) can compose hybrid clouds capable of supporting both traditional and cloud-native applications. The simplified deployment and management features of HPE OneSphere provide a cloud-like experience with on-premises infrastructure. It further allows organizations to integrate Amazon Web Services and Microsoft® Azure public clouds, as well as onboard existing VMware vSphere® and KVM virtual data centers as cloud resource providers. In addition, HPE OneSphere now supports provisioning of enterprise-grade Kubernetes clusters on AWS, as well as on your existing VMware ESXi™ clusters.

How it works

HPE OneSphere simplifies deployment of highly available multimaster Kubernetes clusters on virtual machines in your preferred cloud environment (AWS public cloud or VMware®-based ESXi environments) through a catalog item. This templated approach to Kubernetes cluster provisioning provides IT operations visibility and consistency across dev/test and production environments. For VMware-based Kubernetes deployments, administrators have the ability to control the amount of VMware compute resources that can be allocated for Kubernetes. The Kubernetes clusters become available as a shared provider to all HPE OneSphere projects for consumption.

The HPE OneSphere catalog service also offers a collection of Docker images and Helm Charts for deployment of applications on Kubernetes clusters. By using Helm Charts from the catalog, HPE OneSphere automates the application deployment process and simplifies application lifecycle management. It improves developer productivity, reduces time to market for applications and application errors. Docker images and Helm Charts can be directly imported into the HPE OneSphere catalog from any public repository. The catalog can also be used as a destination for continuous integration/continuous delivery pipelines for internal applications.

Customer benefits

- **Reduce operational overhead**
Customers can consume the deployed Kubernetes clusters for automated deployment, scaling, and management of containerized applications. This takes away the operational overhead of provisioning virtual machines, configuring the networking model, and installing and maintaining the platform lifecycle.
- **Consistency, agility, and cost advantage**
Developers can use standard Kubernetes tools consistently across clouds. The same container workloads can be deployed on a Kubernetes cluster running in AWS or **VMware** without any application code changes, so dev/test and production environments can be in different clouds for agility and cost.
- **Security and compliance**
IT operations can deliver a container-as-a-service (CaaS) offering to their internal customers with a catalog of public and private cloud-native images, which have

been tested and approved to be secure and compliant. With HPE OneSphere, cloud-native microservices can be deployed either on AWS public cloud or on-premises VMware Kubernetes clusters with the assurance of an IT-validated service catalog.

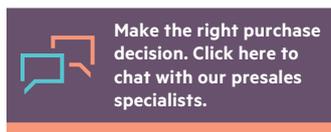
- **Enterprise support and services from HPE Pointnext**

With HPE OneSphere you get reliability, serviceability, and near-continuous availability in a multicloud management solution hosted in the cloud. Since it is a SaaS-based solution, it helps eliminate the complexities of installation and upgrade processes. **HPE Pointnext** can help the customer take it to the next level with its broad range of consulting and services.

Take the next step

Contact an authorized HPE sales representative to learn how you can easily transform your business by simplifying your container management through HPE OneSphere.

Learn more at hpe.com/onesphere



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